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**REPORT AND ACCOMPANYING APPRAISAL OF
FIRST NATIONAL BANK OF HEPPNER LANDS
IN MORROW COUNTY, OREGON**

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REPORT AND ACCOMPANYING APPRAISAL OF FIRST NATIONAL BANK OF HEPPNER LANDS IN MORROW COUNTY, OREGON

OFFERED LANDS

1. Description

(a) The following described lands in surveyed Townships 4 and 5 South, Range 28 East, Willamette Meridian, are offered for purchase or exchange by the First National Bank of Heppner:

<u>TWP. 4 South, Range 28 East</u>	<u>Area in Acres</u>
Section 21 NE $\frac{1}{4}$ SE $\frac{1}{2}$	40
Section 22 N $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$ and SE $\frac{1}{4}$	280
Section 23 SW $\frac{1}{4}$ and S $\frac{1}{2}$ SE $\frac{1}{4}$	240
Section 24 S $\frac{1}{2}$ SW $\frac{1}{4}$	80
Section 25 W $\frac{1}{2}$	320
Section 26 E $\frac{1}{2}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$ and S $\frac{1}{2}$ SW $\frac{1}{4}$	520
Section 27 S $\frac{1}{2}$ S $\frac{1}{2}$	160
Section 33 NE $\frac{1}{4}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$ and SE $\frac{1}{4}$	320
Section 34 NW $\frac{1}{4}$ NE $\frac{1}{4}$, W $\frac{1}{2}$, NE $\frac{1}{4}$, SE $\frac{1}{4}$ and S $\frac{1}{2}$ SE $\frac{1}{4}$	480
Section 35 All	<u>640</u>
Total acreage in Twp. 4 South Range 28 East	3,080

Twp. 5 South, Range 28 East

Section 2 – Lot 4, SW $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$ and NW $\frac{1}{4}$ SE $\frac{1}{4}$	199.28
Section 3 – Lots 1, 2, 3 and 4, S $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$ and SE $\frac{1}{4}$	476
Section 4 – Lots 1, 2 and 3, S $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$ and NW $\frac{1}{4}$ SE $\frac{1}{4}$	515.50
Section 7 – SE $\frac{1}{4}$	160
Section 8 – S $\frac{1}{2}$ NE $\frac{1}{4}$	80
Section 9 – NE $\frac{1}{4}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$ and NW $\frac{1}{4}$ SW $\frac{1}{4}$	120
Section 10 – N $\frac{1}{2}$ NW $\frac{1}{4}$	80
Section 17 – NE $\frac{1}{14}$	<u>160</u>
Total acreage in Twp. 5 South, Range 28 E.	1,790.78
Total acreage of offered lands	4,850
Area in county road right of way	<u>20.78</u>
Total acreage of tract	4,870.78

(b) The tract lies on the northwest slope of the Blue Mountains at the head of Willow Creek and its tributaries draining northwest into the Columbia River, and Ditch and Potamus Creeks, draining south into the John Day River, with a small portion draining into Rhea Creek, a tributary of Willow Creek. The area is all in Morrow County and is approximately 20 miles southeast of the town of Heppner.

(c) The total acreage offered is 4,850 acres.

2. Acreage by Dominant Types

(a) Merchantable ponderosa pine	866 Acres
(b) Merchantable white fir, larch, Douglas fir type	2,001 Acres
(c) Ponderosa pine seedlings and saplings	43 Acres
(d) Open grass and sagebrush	224 Acres
(e) Brush	4 Acres
(f) Lodgepole pine protection forest	601 Acres
(g) White fir, larch, Douglas fir type protection forest	<u>1,111 Acres</u>
Total acreage by types	4,850 Acres

The difference of 20.78 acres between the total acreage of the tract and the total acreage of the offered lands is the acreage included in the right-of-way of the county road through Sections 21, 27, and 34 in Twp. 4 South and Sections 3 and 4 in Twp. 5 South. The right-of-way is 60 feet wide, but since the road is a county road by usage and has never been surveyed, the area within the right-of-way is only approximate and will change with the relocation of the road.

3. Physical and Climatic Conditions

(a) Elevations: The tract lies between 4,050 and 5,875 feet.

(b) Topography: The topography varies from gentle slopes to slopes of 80 or 90%. In general the merchantable ponderosa pine occurs on slopes of from 0 to 40% with the protection forest occupying the steeper north slopes and the openings and lodgepole areas occupying the more gentle slopes and ridge tops in the Ditch Creek drainage. The steeper slopes are smooth.

(c) Soil: The soil is a shallow, light volcanic ash with numerous outcroppings of rock in many places and indications of solid rock not far from the surface. The rock will not appreciably affect logging but will add to road construction costs in some areas.

(d) Precipitation: The average annual precipitation is about 20 inches, the greater part of which is in the form of snow.

(e) Temperature: The average annual range in temperature is from minus 20 degrees F. to 100 degrees F.

(f) Frost: The average frost-free period is from June 1 to September 15.

4. Agricultural Possibilities:

These lands have no agricultural value and though they have several intermittent streams they have very little value for grazing on account of the dense understory of coniferous species and large dense areas of lodgepole and the white fir, larch, Douglas fir types.

5. Accessibility:

(a) The area covered in this report is tapped by the Heppner-Ritter county road and several forest roads as shown on the accompanying map. All of the roads within the area are summer-roads, very narrow, unsurfaced, rough, and steep in places. The county road is graveled for about sixteen miles from Heppner but is very rough and narrow except for a new stretch of road of about four miles near the town.

(b) The north edge of the property in Section 21, Twp. 4 S, R 28 E. is 19 miles by county road from Heppner, the nearest settlement and terminus of the Heppner branch of the Union Pacific. The remainder of the area is all within 26 miles of Heppner.

(c) The nearest operating sawmill is at Kinzua, a distance of 88 miles by improved road or 66 miles of primary and secondary road, including 17 miles of dirt road, from Heppner or 130 miles by railroad. Logs from the vicinity of the tract have formerly gone to Milton, Oregon, a rail haul of approximately 150 miles from Heppner. The Dalles, another potential market point, is 115 miles from Heppner by rail. There is no sawmill in Heppner.

6. Existing Uses, Easements or Forms of Occupancy:

There are no existing uses other than timber growing and grazing and no forms of occupancy except sheep camps. The only easement is the Heppner-Ritter county road having a right-of-way width of 60 feet. This road became a county road by usage and has never been surveyed. Approximately 20.8 acres are included in the right-of-way through the offered lands.

7. Actual or Potential Values of Subsidiary Character:

The principal value of these lands are for watershed protection. A considerable portion of Morrow County is dependent on the bottom lands of Willow Creek for winter feed for stock and early and late grazing. Cattle and sheep raising being the chief support of the county, the importance of this drainage to the economic welfare of the country is quite evident.

The offered lands were originally acquired as coal land and have been prospected in several different places. A total length of 2,400 feet of tunnels and drifts have been put in and two diamond drill holes to a depth of 620 and 625 feet have been bored. The geological formation is irregular, faulted and folded and such narrow veins of coal as were located have been hard to trace. Though the actual extent of the coal beds has not been determined, the coal is known to be low in grade and to contain such a high percentage of impurities as to make its use questionable. The fact that the coal fields were opened up some 30 years ago (about 1904) and have lain idle, with no further attempt to develop them, makes it appear that they are of little or no value.

The offered lands have no recreational or other value of a subsidiary character.

8. Grazing Values:

These lands have very little value for grazing except for the small amount of open land. On most of the land the reproduction, or protection forest, is very dense, shading out all feed and causing the loss of numerous sheep each year. At the present time the lands are leased for grazing at an annual fee of \$550.00 or 11.3 cents per acre. The grazing season is from June 1 to October 15. The carrying capacity of the land is approximately 600 sheep for the season.

9. Timber Values:

Various degrees of cruising from a two-run – 10% cruise of the inferior species to an actual tree count of some small areas of ponderosa pine were used to determine the volume of the timber. In the large areas of ponderosa pine type, a 4 run – 20% cruise was used. All trees 12 inches D.H.H. and larger were estimated.

(a) Following is a tabulation of the timber estimate.

Net Volume in M Board Feet, Log Scale												
Twp.	R.	Sec.	Description	Acres	Merchantable						Cull	Total ^o
					P.P.	L.P.	D.F.	W.F.	W.L.	E.S.	P.P.	
4S	28 E	21	N SE	40	272	--	34	--	6	--	6	312
		22	N½ NW¼, SE¼ SW¼ & SE¼	280	2711	2	152	11	53	10	6	2939
		23	SW ¼ and S ½ SE ¼	240	2457	1	124	15	60	36	146	3693
		24	S ½ SW ¼	80	21	8	198	53	215	187	--	682
		25	W ½	320	1068	3	468	52	75	34	9	1700
		26	E ½, E ½ NW ¼, NE ¼ SW ¼ and S ½ SW ¼	520	1817	15	631	101	358	204	24	3126
		27	S ½ S ½	160	399	5	173	18	162	90	--	847
		33	NE ¼ NE ¼, S ½ NE ¼, SE ¼ SW ¼, and SE ¼	320	551	2	443	105	247	20	1	1368
		34	NW ¼ NE ¼, W ½, NE ¼ SE ¼, and S ½ SE ¼	480	822	14	810	73	659	205	1	2583
		35	All	640	489	--	670	169	242	7	2	1577
5S	28E	2	Lot 4, SW ¼ NW ¼, N ½ SW ¼	199.28	98	2	411	98	97	8	3	714
		3	Lots 1, 2, 3, and 4, S ½ NE ¼, S ½ SW ¼ and SE ¼	476.00	569	2	506	241	460	342	12	2120
		4	Lots 1, 2, and 3, S ½ NE ¼, S ½ NW ¼, W ½ SW ¼, SW ¼ SW ¼, E ½ SE ¼ and NW ¼ SE ¼	515.50	62	23	1305	246	853	172	--	2661
		7	SE ¼	160	6	3	275	137	182	3	--	606
		8	S ½ NE ¼	80	--	40	--	--	21	--	--	61
		9	NE ¼ NE ¼, SW ¼ NW ¼, and NW ¼ SW ¼	120	--	16	121	46	95	23	--	301
		10	N ½ NW ¼	80	--	--	73	17	164	16	--	270
		17	NE ¼	160	18	2	179	32	81	11	4	323
		TOTAL				4870.78	11360	138	6573	1414	4030	1368

^o Does not include cull P.P

(b) The ponderosa pine timber on this tract is reaching maturity but on account of the very light beetle loss in this area it is believed that the net volume will increase rather than decrease during the next fifty years and the quality will also improve.

The Douglas fir is generally mature, of a fair quality and shows very little defect but due to its quality cannot stand a large transportation cost in competition with coast fir. It is suitable principally for use as wood and fence posts, products which are in constant local demand.

The white fir is very defective and rough and only the younger trees contain sufficient sound volume to escape being culls. Since this species is not suitable for lumber, wood or posts and occurs in such small quantities and so remote from pulp using centers it is considered as having no value in this report.

The western larch is of good quality though generally not very large. The stand is very scattered, many of the older trees having been killed by flat-headed and round-headed borers. It is believed this species is best suited to fill the local demand for posts and wood.

The Engelmann spruce varies considerably in size and age, is limited in its distribution to the moister sites and is generally very rough, of poor quality and is not suited for any local use. For these reasons it is considered valueless.

The lodgepole pine is mostly immature, overstocked and stagnated with only an occasional tree 12 inches D.B.H. in size. It is valuable only for wood and posts.

(c) Approximately two-thirds of the volume of ponderosa pine is located in a fairly compact body in Sections 21, 22, 23, 25 and 26, Twp. 4 S – R. 28 E. The remainder occurs in scattered bunches of timber varying in size from about 2 acres to 40 acres.

The main body of ponderosa pine is on steep rocky ground adjacent to the Shaw Creek road, a narrow, fairly steep forest road. The logging of this timber will entail either long skidding distances or higher than average road construction costs to lessen the skidding distance. Much of the ground is too steep for tractors and would have to be logged by means of horses.

The scattered bunches of pine will require considerable new road or exceedingly long skidding distances and in many cases the amount of pine available is not large enough to warrant the building of a road especially with no other timber available to help carry the cost.

The county road from Heppner to the tract will need a great deal of surfacing and widening in order to economically truck the logs to Heppner.

(d) Except in the ponderosa pine areas which are more or less open, the fire risk is very great due to the large number of dead standing trees and the very dense understory or areas of reproduction. Evidence of old fires covering considerable acreage are plentiful.

(e) Practically all of the area except the openings are from medium to well stocked with reproduction occurring either as an understory or as a type and in many cases areas are overstocked to such an extent as to be stagnated. In Sections 21, 22 and 23 the land carries a nearly pure understory of well stocked ponderosa pine. In the other stands of ponderosa pine the stocking of the reproduction is medium and is made up of 50% ponderosa pine, 30% white fir and 20% Douglas fir. The understory in the white fir, larch, Douglas fir type is mostly well stocked and averages 40% white fir, 20% Engelmann spruce, 15% Douglas fir, 15% western larch, 5% ponderosa pine, and 5% lodgepole pine. The accompanying map shows the areas of the various types and stocking within these areas.

10.

(a) All but 400 acres of the offered lands are within the National Forest boundary and are intermingled with other alienated lands comprising 10 different owners. None of these adjacent lands carry any considerable volume of timber. Except for limited local use the area is not considered as having any value for timber production on account of its distance from markets, light stand per acre and absence of adjoining timber of sufficient quantity to make an operating unit.

(b) The offered lands are very important to Morrow County and the town of Heppner in order to protect the Willow Creek watershed, the source of the county's principal stream. The livestock industry of the county is dependent on this valley and water for winter feed and early and late grazing. The following tabulation shows the approximate acreage of the offered lands in each drainage:

Willow Creek and tributaries direct	3102.50 Acres
Rhea Creek	99.00 Acres
Potamus Creek	162.00 Acres
Willow Creek via ditch from Ditch Creek	465.28 Acres
Ditch Creek	<u>1042.00 Acres</u>
Total	4870.78 Acres

Rhea Creek is an important tributary of Willow Creek joining it about 15 miles below Heppner. This valley is also important to the stock raising industry.

Potamus Creek and Ditch Creek both flow south into the John Day River.

From the above tabulation it is seen that all but 261 acres of the offered lands drain either directly or indirectly into Willow Creek or its principal tributary.

The ditch diverting Ditch Creek drainage from 465.28 acres of offered lands is an open ditch built by the county in 1935 to replace a pipe line, put in many years ago, and considered inadequate in size. This ditch also diverts Ditch Creek drainage from approximately 400 acres of other lands adjoining the offered lands. At the present time this ditch is dug into the bed of Ditch Creek and has no dam to hold any water so the only water diverted is the spring runoff. County officials state that the drainage area to

be diverted can be considerably enlarged, but it is my belief that very little area can be added. However, a storage dam could be constructed to store the runoff and a more constant and longer flow of water obtained.

(c) The offered lands are grazed, principally by sheep but except for the openings are considered very poor grazing lands. The carrying capacity of the land is approximately 600 sheep and the annual rental value for grazing is \$550.00 or 11.3 cents per acre.

(d) Acquisition of the tract will not add to administration or protection costs and since the offered lands make up a large percentage of the alienated lands in this vicinity acquisition is desirable from this standpoint.

11. Appraisal:

In making the appraisal of the timber on the offered lands, the quality of the Ponderosa pine was determined from a field examination by Associate Logging Engineer, G. E. Stevenson. The percentage of log grades was found to be as follows:

Ponderosa Pine	#1 Logs	13%
Ponderosa Pine	#2 Logs	20%
Ponderosa Pine	#3 Logs	67%

From the above estimated log grades it is believed that this timber will produce approximately the following percentages of lumber grades. These lumber grades applied to the average selling values shown for the ponderosa pine industry for the Oregon district for the ten year period, 1926-1935 inclusive, give the weighted average selling price per M for the finished grades and are as follows:

	Percentages of Lumber Grades	Average Selling Prices Pine Industry Period 1926-1935	Weighted Average Selling Price Per M
B & Better Select	0.5	Per M \$65.81	0.33
C Select	3.1	Per M \$53.36	1.65
D Select	4.8	Per M \$41.32	1.98
No. 1 Shop	5.1	Per M \$32.66	1.67
No. 2 Shop	13.8	Per M \$22.10	3.05
No. 3 Shop	6.0	Per M \$16.29	.98
4/4 Shop	4.2	Per M \$17.45	.73
No. 1 Common	1.8	Per M \$36.48	.66
No. 2 Common	23.1	Per M \$24.35	5.62
No. 3 Common	29.3	Per M \$17.87	5.24
No. 4 Common	7.5	Per M \$12.82	.96
No. 5 Common	0.8	Per M \$7.52	.06
	100.0		\$22.93 per M Bd. Ft.

In making an appraisal of the timber on the offered lands, there are two possible markets that should be considered, namely:

1. Cutting the timber and selling the logs on board cars at Heppner, Oregon, the closest railroad shipping point.

For the past four or five years there has been a limited market for pine logs delivered at Heppner. Two fairly good-sized pine operators, the Milton Box Company located at Milton, Oregon, and the Western Pine Timber Company located at The Dalles, Oregon, have been purchasing logs on board cars at Heppner and shipping them by rail to their mills. In 1932 there were 1,600 M feet of ponderosa pine timber cut from the private lands adjoining the offered lands. These logs were purchased by the Milton Box Company at approximately the following costs:

Falling and bucking	\$1.00 per M
Skidding and loading on trucks	\$2.50 per M
Truck hauling 20 miles, woods to Heppner, Oreg.	\$4.00 per M
Loading truck to car	.75 per M
Railroad freight, Heppner to Milton, Oreg.	3.48 per M
Stumpage	<u>2.00 per M</u>
Total cost of logs delivered at mill	\$13.73 per M

During 1935 and 1936 there were several million feet of ponderosa pine timber cut from privately owned lands located along the Heppner-Spray highway. These logs were delivered by truck approximately a distance of 32 miles to the railroad at Heppner and sold to the Western Pine Timber Company or the Milton Box Company. From the best information obtainable, these logs were sold for \$9.00 per M feet, log scale, on board cars at Heppner, which included a stumpage cost of \$1.60 per M. It is believed that this demand for logs will continue in about the same proportion as it has been for the past three or four years. The Milton Box Company and the Western Pine Timber Company have no timber supply of their own and are entirely dependent on purchasing logs to keep their plants in operation. In consideration of logging the timber on the offered lands and delivering the logs at Heppner, in the past year there has been considerable improvement made in the road leading into this tract and it is believed that with the improved road conditions the cost of logging this timber could be considerably reduced from the cost shown in logging the timber from the adjoining tract in 1932.

2. The second method of operating this timber would be by constructing a 20 M capacity sawmill on or near the timber and cutting the ponderosa pine and selling it in the rough to some of the larger pine operations in the region tributary to the Union Pacific railroad or to some finishing plant located on one of the connecting, improved highways.

The following appraisal shows the estimated costs of logging and manufacturing by both of the above described methods. Under the assumption that the ponderosa pine timber on the offered lands will be logged and sold f.o.b. cars at Heppner, it is believed that logging can be done at the following contract prices:

	<u>Per M</u>
Falling, bucking and wood's scale	\$0.65
Skidding and loading	1.50
Truck haul to Heppner	2.40
Additional road construction and maintenance	.45
Reloading on railroad cars	<u>.50</u>
Total contract price	\$5.70
General taxes and forest protection	.31
Supervision, general expense and profit	<u>1.25</u>
Total cost on board cars at Heppner	\$7.26
Selling price of logs per M ft. as paid during 1935 and 1936 on board cars at Heppner	\$9.00
Present indicated stumpage value, as cut	\$1.74

Under the second method of operating, a plant of about 20 M daily capacity to be built on or near the property is assumed. This area is subject to very heavy snows and for this reason and to lessen the costs, especially road maintenance, an operable period of about 100 days per year is used.

SUMMARY OF LOGGING COSTS

(a) <u>Logging</u>	<u>Per M</u>
Falling, bucking and wood's scale	\$0.85
Yarding and loading	1.50
Trucking to mill (average haul 3 miles)	1.15
Equipment repairs	.25
Road construction and maintenance	.45
Supervision and general expense	.50
Industrial insurance	.10
Depreciation on \$4400.00 logging equipment (resale value \$1000.00)	.30
Personal property taxes	.02
General taxes and forest protection	<u>.31</u>
Total	\$5.43

Logging equipment consists of two trucks with trailers (\$3000.00), two teams with harness (\$800.00), one loading machine (\$400.00) and miscellaneous blocks, tools, etc., (\$200.00). Logs to be skidded with horses, loaded on trucks and hauled to the mill. A resale value of \$1000.00 for the logging equipment and \$1000.00 for the milling equipment is assumed.

(b) <u>Milling and Selling</u>	<u>Per M</u>
Pond to pile, including repairs, maintenance and supplies	\$3.00
Unpiling (loading trucks)	.30
Trucking of lumber (20 miles)	2.00

Taxes	.10
Insurance on mill and yard	.25
Industrial insurance	.10
Depreciation on plant and equipment of \$5000.00 (Resale value \$1000.00)	.35
Loading cars on railroad	.30
Supervision and selling	<u>1.00</u>
	\$7.15
Overrun 10%	<u>.71</u>
Lumber cost, log basis	\$7.86
Logging cost	<u>5.43</u>
Total production cost, log basis	\$13.29
Average sales price on rough ponderosa pine, log basis (\$14.00 per M with 10% overrun)	\$15.40
Gross realization	2.11
<u>(c) Interest Charges.</u>	<u>Per M</u>
Average interest on investment of \$4,400 in depreciable wood's equipment at 6%	\$0.14
Average interest on plant investment remaining on books at \$5000.00 at 6%	.16
Interest on working capital of \$2000.00 at 6%	<u>.06</u>
	\$0.36
Gross realization after interest (net income)	\$1.75
Present indicated stumpage value, as cut	\$1.75

In each of the foregoing methods of marketing the ponderosa pine timber on the offered lands it is believed that a six-year period of liquidation is best from a logging, hauling and equipment investment standpoint. Since the present indicated stumpage value as cut is practically the same in each case, the reduction to present worth is based on a six-year removal period with an annual cut of 1,893 M board feet and a present indicated stumpage value of \$1.75 per M.

REDUCTION TO PRESENT WORTH

11,360 M feet of ponderosa pine at \$1.75 per M	\$19,880.00
6-year removal – annual income	3,313.33

Present worth = \$19,880 x .664641 (Hoskold's 10%, 4%, 6 years)

<u>Total</u>	<u>Per M</u>
\$13,213.06	\$1.16

DISTRIBUTION OF INCOME

	<u>Total</u>	<u>Per M</u>
\$13,213.06 x .06 Interest	\$792.78	\$0.419
\$13,213.06 x .04 Profit and Risk	528.52	.279
\$13,213.06 x .150762 Sinking Fund	<u>1992.03</u>	<u>1.052</u>
	\$3313.33	\$1.750

The present worth of the ponderosa pine stumpage is thus shown to be \$1.16 per M.

The minimum prices for stumpage of minor species, as established by the Forest Service for the Heppner district are:

Species	<u>Per M</u>	<u>Green*</u>	<u>Per Cord</u>	<u>Dead</u>	<u>Per Cord</u>
Douglas fir	\$1.00		\$.50		\$.25
Western larch	1.00		.50		.25
Lodgepole pine	1.00		.50		.25

* Plus \$.25 per cord for brush disposal

These prices are for more or less selected trees rather than for an area containing a certain volume of timber. Owing to the poor quality of the Douglas fir, western larch, Engelmann spruce, white fir and lodgepole pine on the area, it is very doubtful if any part of these species should be considered as available sawtimber and perhaps only a certain amount should be considered as having any value.

It is estimated that 40%, or 4,296 M feet of the 6,573 M feet of Douglas fir, 4,030 M feet of western larch and 138 M feet of lodgepole pine is comparable in quality and accessibility to timber of like species sold by the Forest Service and from other adjoining lands in this locality and has a like value of \$1.00 per M or \$.50 per cord. In addition to the above there are an estimated 3,000 cords of lodgepole pine having a value for cordwood of \$.50 per cord. The market for cordwood and posts is limited to local use, and there is considerable competition from adjoining lands. For these reasons a removal period of 20 years with an annual removal of 580 cords is believed to be equitable and is used to reduce the value of the cordwood and other products to their present worth.

11,592 cords of minor species at 50 cents per cord \$5,796.00
 Present worth = \$5,796.00 x .374303 (Hoskold's s10%, 4%, 20 years)

<u>Total</u>	<u>Per cord</u>
\$2,169.44	\$0.187

SUMMARY OF APPRAISED VALUES AND RECOMMENDATIONS

11,360 M feet of ponderosa pine at a present worth of \$1.16 per M	\$13,177.60
11,592 cords of minor species (40%) of the volume of Douglas fir, western larch and lodgepole pine, plus 3000 cords of lodgepole pine) at a present worth of \$0.187 per cord	2,169.46
6,445 M feet of Douglas fir, western larch and lodgepole pine	No value
1,414 M feet of white fir	No value
1,368 M feet of Engelmann spruce	No value
214 M feet of cull ponderosa pine	No value
Value of reproduction	No value
Grazing value – Annual rental value of \$550.00 capitalized at 6%	\$9,166.66
Other recognizable values	<u>No value</u>
Total value of land, grazing and timber	\$24,513.72
The total average value per acre (based on 4,850 acres) is	5.05 plus

In view of the fact that a large portion of the offered lands are covered with a very dense stand of second growth and lodgepole pine type and that the annual rental value of \$550 has been in effect only a few years and perhaps does not represent a true average rental value, it is believed that the grazing value of \$9,166.66 is too high and should be reduced to \$4,850.00 or \$1.00 per acre. This reduces the total value of the land, grazing and timber, to \$20,197.06, or a total average value of \$4.16 plus, per acre, based on 4,850 acres.

The importance of the offered lands as the principal watershed of Morrow County, the isolation of the tract of ponderosa pine timber on these lands and the likelihood of its being logged in such a way as to impair this watershed, and the tentative allocation of this timber to the Kinzua sustained yield unit all point to the advisability of government acquisition by exchange or purchase. At the above total price of \$20,197.06, the acquisition of the offered lands is recommended with the feeling that the interests of the government will be fully protected.

/s/ Wm. J. Wakeman
WM. J. WAKEMAN,
Timber Expert

Approved, November 19, 1936,

/s/ O. F. Ericson
Assistant Regional Forester